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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,182

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Nigel P. Clarence

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EXAMINER

WIEHE, NATHANIEL EDWARD

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,182	<b>Applicant(s)</b> CLARENCE ET AL.	
	<b>Examiner</b> NATHANIEL WIEHE	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8,11-20,22-28,30-37,44,45 and 47-53 is/are rejected.
- 7) ☒ Claim(s) 3,4,7,9,10,21,29,38-43 and 46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20060621</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 21 June 2006 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5,6,8,11-20,22-26,28,30-37,44,45,47 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 197 18 027 A1, hereinafter "Miele". Miele discloses a centrifugal pump including a pump insert (4) located within a pump casing (11) and connected thereto through the use of an inter-engaging profiled coupling arrangement, in the form of a bayonet connection (12a,12b). The pump also provides a casing closure element (13) sandwiched directly between the pump insert (4) and the pump casing (11). The pump insert (4) and the casing closure element (13) are located about the pump shaft (6). The inter-engaging coupling arrangement achieves an appropriate coupling of the pump insert (4) to the pump casing (11). The inter-engaging

Art Unit: 3745

coupling arrangement is formed by a plurality respective radially extending complementary teeth (12a,12b) and associated slots. Also, the respective cylindrical land areas of the pump casing (11) and the pump insert (4) constitute the respective support surfaces from which the coupling elements extend. Bayonet connections, such as that of Miele, are arranged so that the two parts (here 4,11) are initially brought together such that the coupling elements are misaligned and then rotating the two parts with respect to each other such that the engagement surfaces of the coupling elements slide into engagement with each other. The pump insert (4) includes an annular portion and a cylindrical portion that extends substantially perpendicularly from the outer surface of the annular portion. (See Fig. 2). The forward, inner surface of the pump insert (4) forms a portion of the pump volute.

Regarding claims 17 and 19, the term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding (in re Hotte (C.C.P.A.) 157 U.S.P.Q. 326); the term is not necessarily restricted to a one-piece article (in re Kohno (C.C.P.A.) 157 U.S.P.Q. 275); and may be construed as relatively broad (in re Dike (C.C.P.A.) 157 U.S.P.Q. 581).

Regarding claims 18 and 20, the limitation "formed separately of and subsequently connected to" is being treated as a product by process limitation; that is that the coupling elements are made by forming them separately and then attaching them to the pump insert/casing. As set forth in MPEP 2113, product by process claims are NOT limited to the manipulation of the recited steps, only to the structure implied by the steps. Once a product appearing to be substantially the same or similar product is

Art Unit: 3745

found, a 35 U.S.C. § 102/103 rejection may be made and the burden is shifted to applicant to show an unobvious difference. See MPEP 2113.

Regarding claim 33, the limitation “adapted for use on both lined and unlined pump” is being treated as an intended use limitation. The recitation of intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. Here, the pump of Miele is capable of having a liner that does not interfere with or contact the casing and insert coupling, e.g. a liner applied as a coating. Thereby, the pump of Miele meets the claim limitation in that it is capable of use with a lined as well as unlined pump.

Regarding claims 36 and 37, the method of assembling a portion of the pump is apparent from the structure of Miele and the nature of Miele’s bayonet connection, as discussed above.

Claims 50-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Lebe et al. (5,427,498), hereinafter “Lebe”. Lebe discloses a centrifugal pump including, in at least one embodiment, a pump insert (34) having an inner surface defining a portion of the pump volute that is coupled to the pump casing (1), adjacent the suction branch, i.e. the pump inlet, through the use of an inter-engaging profiled coupling arrangement, i.e. a “bayonet mounting”. (See Figs. 15 & 16). The insert (34) provides a flow path between the suction branch, i.e. inlet, and the pump impeller (6). (note Fig. 2). The pump includes a casing closure element (29) forming a portion of the pump suction

Art Unit: 3745

branch sealing arrangement that is secured against the pump casing insert. (See Fig. 15).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 197 18 027 A1, hereinafter "Miele". As discussed above, Miele discloses the invention substantially as claimed except for the use of coupling surfaces that define a wedge profile. However, it is exceedingly well known in the art of bayonet connections to utilize wedge/ramp profiles on the engagement surfaces so as to produce a firm, tight connection. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bayonet connection of Miele by utilizing engagement surfaces having a wedge profile since such surfaces are well known in the art for the purpose of providing a firm/tight connection.

***Allowable Subject Matter***

Claims 3,4,7,9,10,21,29,38-43 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 3745

The instant invention is deemed to be a non-obvious improvement in the art of centrifugal slurry pumps. For example, U.S. Pat. Nos. 4,575,306 , 3,265,002 , and 3,146,722 disclose lined and unlined centrifugal pumps having a pump inserts bolted together to pump casings and provide closure elements, i.e. seal holders, which are clamped between the insert and the casings. However, it would not have been obvious to modified the prior art pump by replacing the typical bolt arrangement with an inter-engaging profiled coupling arrangement in order to achieve pump inserts arranged in the manners claimed nor the method of achieving such arrangements.

### ***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent issued to Stanley discloses a centrifugal slurry pump wherein the impeller is secured to the shaft utilizing a bayonet connection arrangement. The patent issued to Lee discloses centrifugal pump including a pump insert having an inter-engaging coupling with mounting lugs so as to be clamped between the pump casing and a closure element.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANIEL WIEHE whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

Art Unit: 3745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATHAN WIEHE/  
Nathan Wiehe  
Examiner  
Art Unit 3745